

**Notice of Allowability**

Application No.

10/045,924

Examiner

Brian P. Egan

Applicant(s)

GREENWOOD ET AL.

Art Unit

1772

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to A.F. Amendment filed 5/10/04.
2. ☒ The allowed claim(s) is/are 1-15, 17-34 and 36-74.
3. ☒ The drawings filed on 23 January 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date filed 1/14/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**NOTICE OF ALLOWANCE**

***Examiner's Amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. John Molnar on June 3, 2004.

The application has been amended as follows:

**IN THE CLAIMS:**

**CLAIM 1:**

-Line 7, delete the word "essentially" after the phrase "lamellar graphite material consisting".

**CLAIM 20:**

-Line 9, delete the word "essentially" after the phrase "lamellar graphite material consisting".

**CLAIM 39:**

-Line 7, delete the word "essentially" after the phrase "a first layer consisting".

**CLAIM 57:**

Art Unit: 1772

-Line 9, delete the word “essentially” after the phrase “a first layer consisting”.

*Reasons for Allowance*

2. The following is an examiner’s statement of reasons for allowance: the invention as claimed, named a laminar, thermally-conductive interface interposable intermediate a first heat transfer surface and an opposing second heat transfer surface comprising a first layer formed of a flexible, lamellar graphite material consisting of intercalated graphite flake which is formed into a sheet without the use of a binder (or a first layer consisting of a flexible tin foil material) and a second layer formed of a thermally-conductive phase-change material, is neither anticipated nor fairly suggested by the prior art of record.

The closest prior art of record are the teachings of Bergerson (#6,090,484) and Colombier et al. (#5,100,737). Bergerson teaches a two-layered structure for mounting electronic devices comprising a polymeric layer embedded with graphite material and an adhesive layer. Bergerson fails to teach a first layer consisting of intercalated graphite flake formed into a sheet without the use of a binder and therefore fails to anticipate or fairly suggest Applicant’s invention. The secondary references of record fail to alleviate these deficiencies. With regards to the teachings of Colombier, Colombier teaches a multilayered conductive substrate comprising both graphite and a metal foil layer. Colombier explicitly teaches away from the use of a single foil layer and teaches the use of a foil layer in combination with a graphite layer to maximize the physical and mechanical properties of the substrate. Thus, Colombier fail to anticipate or fairly suggest the

Art Unit: 1772

use of a first layer consisting of a flexible tin foil material. The secondary references of record fail to alleviate these deficiencies.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 571-272-1491. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Brian P. Egan*  
BPE 6/3/04

*William P. Watkins III*

WILLIAM P. WATKINS III  
PRIMARY EXAMINER

For Harold  
Pyon  
Acting SPE